

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A transmission control system for a hybrid vehicle, comprising:

a hybrid transmission comprising a differential mechanism which includes at least four rotating members, rotating conditions of all of the rotating members being determined when rotating conditions of two of the rotating members are determined, four of the rotating members being connected to one of two motor/generators, an input connected to a prime mover, an output connected to a driveline, and the other of the motor/generators, the one of the motor/generators being controlled by means of a revolution speed control to execute a transmission ratio control, the other of the motor/generators being controlled by means of a torque control to execute an output control; and

a controller connected to the hybrid transmission including the motor/generators, the controller being arranged to change the torque control of the motor/generator under the torque control to the revolution speed control and to change the revolution speed control of the other motor/generator under the revolution speed control to the torque control, when one of the torque of the motor/generator under the revolution ~~torque~~ speed control and the revolution speed of the other motor/generator under the torque control becomes saturated,

wherein the controller determines that the torque of the motor/generator under the revolution speed control becomes saturated when the torque detected by a torque detector becomes out of a range between upper and lower torque limits of the motor/generator under the revolution speed control, and

wherein the controller determines that the revolution speed of the motor/generator under the torque control becomes saturated when the revolution speed detected by a revolution speed detector becomes out of a range between upper and lower revolution speed limits of the motor/generator under the torque control.

2. (Canceled)

3. (Original) The transmission control system as claimed in claim 1, wherein the controller is further arranged to change the revolution speed control of the motor/generator under the revolution speed control to the torque control and to change the torque control of the other motor/generator under the torque control to the revolution speed control, only when the torque of the motor/generator under the revolution speed control becomes saturated.

4. (Currently Amended) The transmission control system as claimed in claim 3, wherein the controller sets a torque command of the motor/generator to be changed from the revolution speed control to the torque control so that an actual torque of the motor/generator to be changed from the revolution speed control to the torque control is smoothly varied from an actual torque at a moment just before a changeover from the revolution speed control to the torque control to a target torque, and sets a revolution speed command of the motor/generator to be changed from the torque control to the revolution speed control so that an actual revolution speed of the motor/generator to be changed from the torque control to the revolution speed control is smoothly varied from an actual revolution speed at a moment just before a changeover from the torque control to the revolution speed control to a target revolution speed.

5. (Original) The transmission control system as claimed in claim 1, wherein the controller is further arranged to change the torque control of the motor/generator under the torque control to the revolution speed control and to change the revolution speed control of the other motor/generator under the revolution speed control to the torque control, only when the revolution speed of the motor/generator under the torque control becomes saturated.

6. (Currently Amended) The transmission control system as claimed in claim 5, wherein the controller sets a revolution speed command of the motor/generator to be changed from the torque control to the revolution speed control so that an actual revolution speed of the motor/generator to be changed from the torque control to the revolution speed control is

smoothly varied from an actual revolution speed at a moment just before a changeover from the torque control to the revolution speed control to a target revolution speed, and sets a torque command of the motor/generator to be changed from the revolution speed control to the torque control so that an actual torque of the motor/generator to be changed from the revolution speed control to the torque control is smoothly varied from an actual torque at a moment just before a changeover from the revolution speed control to the torque control to a target torque.

7. (Original) The transmission control system as claimed in claim 1, wherein the controller is further arranged to determine whether the torque of the motor/generator under the revolution speed control becomes saturated.

8. (Original) The transmission control system as claimed in claim 1, wherein the controller is further arranged to determine whether the revolution speed of the motor/generator under the torque control becomes saturated.

9-10. (Canceled)

11. (Original) The transmission control system as claimed in claim 1, further comprising revolution speed detectors for detecting the revolution speeds of the motor/generators and torque detectors for detecting the torques of the motor/generators.

12. (Original) The transmission control system as claimed in claim 1, wherein the controller is further arranged to determine a prime mover operating point indicative of a combination of a revolution speed and a torque of the prime mover according to a driver's demand so as to maintain an optimal fuel consumption of the hybrid vehicle.

13. (Currently Amended) A method of controlling a hybrid transmission which is for a hybrid vehicle and comprises a differential mechanism including at least four rotating members, rotating conditions of all of the rotating members being determined when rotating

conditions of two of the rotating members are determined, four of the rotating members being connected to one of two motor/generators, an input connected to a prime mover, an output connected to a driveline, and the other of the motor/generators, the one of the motor/generators being controlled by means of a revolution speed control to execute a continuous variable transmission ratio control, the other of the motor/generators being controlled by means of a torque control to execute an output control, the method comprising:

changing the torque control of the motor/generator under the torque control to the revolution speed control and changing the revolution speed control of the other motor/generator under the revolution speed control to the torque control, when one of the torque of the motor/generator under the ~~revolution~~ torque speed control and the revolution speed of the motor/generator under the torque control becomes saturated, wherein the torque becomes saturated when the torque becomes out of a torque range between upper and lower torque limits of the motor/generator under the revolution speed control or the revolution speed becomes saturated when the revolution speed becomes out of a revolution speed range between upper and lower revolution speed limits of the motor/generator under the torque control.

14. (Currently Amended) A control system for controlling a hybrid transmission applied to a hybrid vehicle, the hybrid transmission comprising a differential mechanism which includes at least four rotating members, rotating conditions of all of the rotating members being determined when rotating conditions of two of the rotating members are determined, four of the rotating members being connected to one of two motor/generators, an input connected to a prime mover, an output connected to a driveline, and the other of the motor/generators, the one of the motor/generators being controlled by means of a revolution speed control to execute a transmission ratio control, the other of the motor/generators being controlled by means of a torque control to execute an output control, the control system comprising:

means for changing the torque control of the motor/generator under the torque control to the revolution speed control and the revolution speed control of the other motor/generator under the revolution speed control to the torque control, when one of the torque of the

motor/generator under the revolution ~~torque~~ speed control and the revolution speed of the other motor/generator under the torque control becomes saturated, wherein the torque becomes saturated when the torque becomes out of a torque range between upper and lower torque limits of the motor/generator under the revolution speed control or the revolution speed becomes saturated when the revolution speed becomes out of a revolution speed range between upper and lower revolution speed limits of the motor/generator under torque control.